## IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A method of detecting motion in an area, the method comprising:

receiving frames of the area;

using a high speed motion detection algorithm to remove frames in which a threshold amount of motion is not detected; and

using a high performance motion detection algorithm on remaining frames to detect true motion from noise,

wherein the high performance detection algorithm operates on frames having pixels in grey scale for selected portions of images, and operates on frames having pixels in RGB or other color domain for other portions of the images.

2. (Original) The method of claim 1 wherein the high speed detection algorithm operates in a compressed image domain.

3. (Original) The method of claim 1 wherein the high speed detection algorithm operates in an uncompressed image domain.

4. (Original) The method of claim 1 wherein the high performance detection algorithm operates in an image pixel domain.

5. (Original) The method of claim 4 wherein the high speed motion detection algorithm represents portions of images in grey scale pixels.

6. (Original) The method of claim 5 wherein portions of the image are represented in grey scale when such portions are not high in color content.

7. (Currently Amended) The method of claim 1 wherein the selected portions of the images are ~~the high performance detection algorithm operates on frames having pixels in grey scale for~~

~~portions of the images~~ low in color content~~, and having pixels in RGB or other color domain for portions of the images higher in color content~~.

8. (Original) The method of claim 7 wherein the portions are based on an initial set up.

9. (Currently Amended) The method of claim 1 ~~wherein the high performance detection algorithm operates on frames having pixels in grey scale for selected portions of the images, and having pixels in RGB or other color domain for other portions of the images,~~ wherein the selected portions are determined based on a real time assessment of dynamic change in the area.

10. (Original) The method of claim 1 wherein the threshold is predetermined.

11. (Original) The method of claim 1 wherein the area is a predetermined area.

12. (Currently Amended) The method of claim 1 wherein the frames comprise pixels, and where such pixels are grouped in blocks of pixels, each block being represented as an ~~a single (i.e.~~ average or median~~) unit~~ in the color domain.

13. (Original) The method of claim 12 wherein the blocks of pixels are of different sizes.

14. (Original) The method of claim 13 wherein portions of the area requiring higher resolution to detect motion are represented by blocks of smaller number of pixels.

15. (Original) The method of claim 13 wherein the number of pixels in the blocks is varied based on depth of field.

16. (Original) A method of detecting motion in an area, the method comprising:

receiving frames of the area;

using a high speed motion detection algorithm to remove frames in which a threshold amount of motion is not detected;

using a high performance motion detection algorithm on remaining frames to detect true motion from noise, wherein the frames comprise pixels, and where such pixels are grouped in blocks of pixels, each block being represented as a single average pixel; and

initializing a model of the area comprising multiple weighted distributions for each block of pixels.

17. (Original) The method of claim 16 wherein the frames comprise blocks of pixels, and wherein a number of weighted distributions per block is varied.

18. (Original) The method of claim 17 wherein the number of weighted distributions varies between 1 and 5.

19. (Original) The method of claim 17 wherein the number of weighted distributions is varied based on dynamics of motions or expectations.

20. (Original) The method of claim 16 wherein the model is based on N successive frames and the weight is based on a count.

21. (Original) The method of claim 16 wherein a predefined number of weighted distributions is selected for each block of pixels, and wherein the weights are normalized.

22. (Original) The method of claim 16 wherein if pixels in a new frame match the model, the model weights and distributions are updated.

23. (Currently Amended) The method of claim 16 wherein a ~~divergence measure (~~modified Jeffery's measure ~~as defined above)~~ is used to determine a match or non-match in the distributions.

24. (Original) The method of claim 16 wherein if a predetermined number of frames have pixels or blocks that do not match the model, the lowest weighted

distributions of the pixels or blocks of a background are removed from the model and replaced by ones derived from a foreground distribution once a derived number of sequences is reached within the last N successive frames.

25. (Original) The method of claim 16 wherein the high speed motion detection algorithm operates in a compressed image domain.

26. (Original) The method of claim 16 wherein the high speed motion detection algorithm operates in an uncompressed image domain.

27. (Currently Amended) A system for detecting motion in a monitored area, the system comprising:

means for receiving video images of the monitored area;

a fast video motion segmentation (VMS) module that rejects still images that do not portray any motion;

a robust VMS module that detects motion of an object in the monitored area; and

a resource management controller that initializes, controls, and adapts the fast and robust VMS modules,

wherein the robust VMS module operates on frames having pixels in grey scale for selected portions of the images, and operates on frames having pixels in RGB or other color domain for other portions of the images.